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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,103	12/14/2001	Karl James Molnar	P14953-US1	6484
24239	7590	06/13/2005	EXAMINER	
MOORE & VAN ALLEN PLLC			BOCURE, TESFALDET	
P.O. BOX 13706			ART UNIT	
Research Triangle Park, NC 27709			PAPER NUMBER	
			2631	
DATE MAILED: 06/13/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/017,103

Applicant(s)

MOLNAR, KARL JAMES

Examiner

Tesfaldet Bocure

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1- 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Dabak** (ER 1-133-071, of a record) in view of **Hafeez et al.**, (US patent number 6,304,618, newly cited).

Dabak teaches a RAKE receiver (fig.7) for receiving and jointly estimating the channel and detecting (712 and 714) the plurality data symbols (see input to finger 700-704) corresponding to a plurality of users comprising: joint channel estimating of the plurality of the received symbols (804-818 in fig. 8) and iteratively detecting (824) the received current symbols using the previously estimated channel and previously detected symbols (see starting pager 6, line 8 through page 8, line 6 and fig. 8) as in claims 1,7,11,12,13,19 and 27.

Further to claims 2 and 14, **Dabak** a plurality of iteration on the channel estimation and data detection is performed until minimum ISI is satisfied (see page 7, lines 1-6), claimed updating in claims 2 and 14.

Further to claims 3, 15 and 31, **Dabak** also teaches that:

A midamble symbols in the received CDMA in fig.4 a, claimed pilot in CDMA as in claim 3 and for further use by the receiver for tracking the channel as in claims 21 and 22;

The estimated channel response is used for the next symbols (page 6, lines 20-25) as in claim 8.

The data detecting unit in figure 6b has elements 628 and 630, the claimed broad reformation in claims 20 and 32-34 and conjugate multipliers (640,646,644,654 and adders 660 and 666);

The channel estimation and data detection is performed on each of the received time slots of figure 3, claimed block estimation in claim 28; and using the pilot symbols for performing a recursive estimation of the channel and detection of the data thereafter as in claim 29.

Dabak fails to teach that: the first and second users are asynchronous as in claims 1,7,11,13,19 and 27; wherein the initialization is performed by semi-blind equalization as in claims 4-6, and 16-18; and initialization further comprising pulse shaping as in claims 9,10,23-26 and 30.

Hafeez et al., (**Hafeez** hereinafter) for the same endeavor as the instant application and that of **Dabak** teaches a joint estimation and detection method, where the users' information is jointly estimated and detected (602 and 604) using a pulse shaping information generated by the pulse shape information generator 306¹; and semi-blind acquisition may be used when the information of one of the user is known.

Therefore it would have been obvious to use the pulse shaping information and semi-blind equalization method of Hafeez to minimize the processing time and detect multi user information at the time the invention was made.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patent numbers 5,930 and US patent Publication numbers US 2003/0189992 and US 2004/0174939 to Laakso et al, Nefedov and Wang respectively disclose joint channel estimation and data detection.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tesfaldet Bocure whose telephone number is (571) 272-3015. The examiner can normally be reached on Mon-Thur (7:30a-5:00p) & Mon.-Fri (7:30a-5:00p).

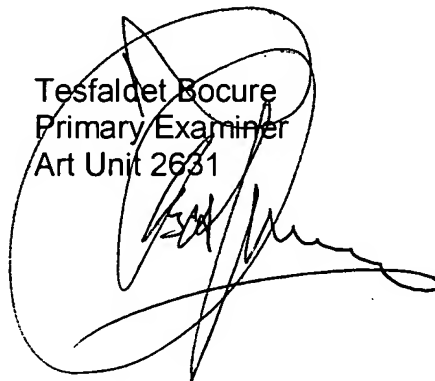
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad H Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

¹ It should be noted that the asynchronous is defined in the specification page 5, lines 11-13 as "if the signals from the first and the second users are asynchronous, detection can be accomplished through reference to a pulse shaping components," as is the case in the Hafeez's patent.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tesfaldet Bocure
Primary Examiner
Art Unit 2631

A handwritten signature in black ink, appearing to read 'Tesfaldet Bocure', is written over the printed name and title.

T.Bocure